

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A hydraulically settable lightweight concrete composition which cures to a cured composite following addition of water and exhibits strain hardening behavior following cure, said composition comprising

- a) a brittle inorganic matrix precursor;
- b) matrix interactive reinforcing fibers having a minimum average length of about 4 mm, present in an amount of from 0.5 volume percent to less than 4 volume percent based on the total volume of cured composite;
- c) at least one lightweight aggregate having a mean particle size in the range of 10 μm to 1000 μm , in an amount effective to achieve a target density in said cured composite ~~below about~~ not more than 2000 kg/m^2 kg/m^3 .

2. (Original) The composition of claim 1, wherein said reinforcing fibers comprise polymeric reinforcing fibers having a mean diameter from 10 to 60 μm , a mean length of 4 mm to 30 mm, a strength of 800 MPa or higher, a modulus of elasticity of 10 to 300 GPa, interfacial chemical bonding below 4.0 J/m^2 , interface frictional stress from 0.5 to 3.0 MPa, and an interface slip hardening coefficient below 3.0.

3. (Original) The composition of claim 1, wherein said lightweight aggregate comprises microballoons having a mean diameter of from 10 μm to 100 μm .

4. (Original) The composition of claim 3, wherein said microballoons have walls of glass, ceramic, or polymer.

5. (Original) The composition of claim 1, wherein said brittle inorganic matrix precursor comprises a hydraulically settable cement or an inorganic polymer.

6. (Original) The composition of claim 1, wherein said brittle inorganic matrix precursor comprises a Portland cement.

7. (Original) The composition of claim 1, comprising, ~~for each one part by weight of cement~~, from 1.0 to 3.0 volume ~~part~~ percent reinforcing organic fibers based upon the volume of the cured composite, and sufficient lightweight aggregate to achieve a density, when cured by addition of water, of from 800 kg/m³ to 1900 kg/m³.

8. (Original) The composition of claim 1, wherein said reinforcing fibers are selected from the group consisting of high density polyethylene fibers, polyvinyl alcohol fibers, and polyarylamide fibers.

9. (Original) The composition of claim 1, wherein said fibers contain polar or hydrophilic groups.

10. (Original) The composition of claim 1, wherein at least a portion of said lightweight aggregate comprises gas filled voids.

11. (Original) The composition of claim 1, wherein gas filled voids are present, and a cured composite achieved by adding water and curing, has a density of from 1500 kg/m³ to 1900 kg/m³.

12. (Original) A fiber reinforced lightweight concrete structure, comprising a cured, fiber reinforced brittle matrix composite prepared by adding water to the composition of claim 1 to form a hydraulically curable composition, and allowing said curable composition to cure.

13. (Currently Amended) The ~~composite~~ composition of claim 9 which when cured to a composite has a density in the range of 800 to 2000 kg/m³ and exhibits a tensile strain of 2% or greater.

14. (Currently Amended) The ~~composite~~ composition of claim 9 which when cured to a composite has a density in the range of 900 kg/m³ to 1600 kg/m³ and a tensile strain capacity greater than 3.0%.

15. (New) The composition of claim 1, wherein said matrix interactive fibers are present in an amount of from 1.5 to 2.5 volume percent based on the volume of the cured composite.

16. (New) The composition of claim 15, wherein said lightweight aggregate has a mean particle size in the range of 10 µm to 100 µm.

17. (New) The composition of claim 1, further comprising non-matrix interactive fibers.

18. (New) The composition of claim 1, wherein a non-matrix interactive fiber is selected from the group consisting of carbon fibers, polypropylene fibers, cellulose fibers, low density polyethylene fibers, and steel fibers.

19. (New) The composition of claim 1, wherein said matrix interactive fibers have a mean diameter of from 30 µm to 60 µm.